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(6290)

ALS  
RSC

817 SOUTH MADISON STREET  
P.O. BOX 431  
WAUPUN WI 53963-0431  
920.324.7920  
FAX: 920.324.7922  
www.waupunutilities.com

January 16, 2003

Mr. Scot Cullen, Chief Electric Engineer  
Public Service Commission  
610 N. Whitney Way  
P.O. Box 7854  
Madison, WI 53707-7854

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RE: In the Matter of Filing Reporting Requirements for Appropriate Inspection and Maintenance, PSC Rule 113.0607(6)

Dear Mr. Cullen:

Enclosed for filing are 3 copies of Waupun Utilities report to the commission, submitted every two years, showing compliance with its Preventative Maintenance Plan.

Very truly yours,

Randy Posthuma  
Electric Supervisor

Enclosures

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JAN 28 2003

Electric Division

# **TWO YEAR REPORT DOCUMENTING COMPLIANCE WITH THE PREVENTATIVE MAINTENANCE PLAN**

**WAUPUN UTILITIES**

**FILING DEADLINE  
FEBRUARY 1, 2003**

January 27, 2003

Randy Posthuma

817 S. Madison ST

Waupun, WI 53963

(920)324-7920

[rposthuma@wippisys.org](mailto:rposthuma@wippisys.org)

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This report format was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

## **I Reporting Requirements:** PSC 113.0607(6) states;

Each utility shall provide a periodic report to the commission showing compliance with its Preventative Maintenance Plan. The report shall include a list of inspected circuits and facilities, the condition of facilities according to established rating criteria, schedules established and success at meeting the established schedules.

## **II Inspection Schedule and Methods:**

SCHEDULE:	MONTHLY	ANNUAL	EVERY 5 YEARS
Transmission ( $\geq 69\text{Kv}$ )		X	X
Substations	X	X	
Distribution (OH & UG)			X

**METHODS:** Five criteria groups will be used to complete the inspection of all facilities.

1. IR – infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
2. RFI - Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
3. SI – structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
4. Clearance – refers to proper spacing of conductors from other objects, trees and conductors.
5. EC – equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

Distribution facilities will be inspected by substation circuits on a 5-year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included in the plan.

## **III Condition Rating Criteria**

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies.

- 0) Good condition
- 1) Good condition but aging
- 2) Non-critical maintenance required – normally repair within 12 months
- 3) Priority maintenance required – normally repair within 90 days
- 4) Urgent maintenance required – report immediately to the utility and repair normally within 1 week

#### **IV Corrective Action Schedule**

The rating criteria as listed above determine the corrective action schedule.

#### **V Record Keeping**

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

#### **VI Reporting Requirements**

A report and summary of this plan's progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a cover letter documenting the percent of inspections achieved compared to the schedule and the percent of maintenance achieved within the scheduled time allowance.

#### **VII Inspected Circuits and Facilities**

Circuit # and description	Substation
<b>Circuit # 5,6</b>	<b>Main Substation</b>
<b>Circuit # 1,2,3</b>	<b>Prison Substation</b>
<b>Circuit # 1,2</b>	<b>Comtech Substation</b>

Base load and peaking generation, less than 50 megawatts per unit in size, is typically subject to pre-operational checks, in addition to checks and maintenance during and after periods of operation. Emergency generation is test run and maintained every month.

#### **VIII Scheduling Goals Established and Success of Meeting the Criteria:**

It was Waupun Utilities goal to complete all monthly substation inspections, annual substation inspections, annual transmission line inspections and to inspect approximately 40% of the distribution system. In addition, we expected to complete all scheduled maintenance resulting from the inspections within the prescribed time periods specified in the rating criteria.

All the inspection goals were met. Approximately 40% of the distribution system was inspected. Two urgent maintenance items were found and repaired within seven days. Seventeen non-critical items were found and repaired in the required time period.

## **IX Facility condition – rating criteria:**

During the past two years, all monthly substation inspections, annual substation inspections, annual transmission line inspections and approximately 40% of the distribution system inspections were completed on time. Of the items found requiring maintenance, all were repaired before causing an outage.

Portions of Waupun Utilities electric system is aging. We have adopted an aggressive approach in upgrading our electric system. We anticipate having our aging three phase electric system completely upgraded in 5 to 10 years as needed. We are simultaneously upgrading the aging portions of our overhead single-phase system, as well.

Waupun Utilities has been able to establish a relatively low customer outage rate due in part to our aggressive tree-trimming program. In general we think that our electric system is solid, but do have portions that are aging. With the time frame we have established we expect no problems with upgrading our system before reliability becomes an issue.